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EDITED BY THE PROFESSORS OF THE MIAMI UNIVERSITY.

ORIGINAL.

Outlines of American Political Economy, in a series of letters by Fred. List, late Prof. of Pol. Econ. at the University of Tubingen in Germany. pp. 40. Philadelphia, 1827.

In no subject do men exercise less fairness, and give less attention to the attainment of correctness in their decisions, than in Political Economy. None we suppose are so extravagant as to assert that in this science demonstrative certainty is attainable; —at least none who know what is meant by demonstration; and since this is so, to form a correct judgement in any question of political economy, we must examine the evidence for the opposite opinions which are held, and yield our assent to that, in favour of which there may be the greater weight of argument, and the stronger support of facts. Now we will be anticipated by our readers in saying that this is scarcely ever done by the majority of mankind. Indeed the thing is impracticable to most persons. Few have the leisure and industry, necessary to investigate in all its bearings, a subject so extensive as the science of political economy; and consequently it seems inevitable that the mass of men should either bow to the authority of the most learned writers who have spent their lives in the collection of facts, and the severe scrutiny of reasonings in relation to this matter; or should adopt the crude notions of the first pamphleteer or newspaper essayist on the Tariff. As the latter means of gaining information is the more accessible, we cannot be surprised that the public opinion should in a great measure be built upon it.

If political economy be a science, it is reasonable that it should be studied as other sciences; and it is not extremely rational for any individual to imagine himself excepted from the common lot of humanity, and to think that he can understand this science by instinct, or inspiration. If any person should fancy himself skilled in all the wonders of Astronomy, and Natural Philosophy, without any previous instruction,—"by the mere force of natural abilities, without the least tincture of learning," it is not likely that many would value very highly the soundness of his judgement, however they might admire the flights of his imagination. But we have examples of similar conduct daily with respect to political economy, and no one thinks it strange nor presumptuous. In this science which requires such an extensive acquaintance with facts, and the most rigorous inductive reasoning every school boy deems himself qualified to decide. There must be a great distance between what different persons mean by political economy. In most matters very much of the variety of opinion among men, proceeds from their having gone different lengths in the examination of the subjects; and this observation is nowhere more applicable than in the science under consideration.

This must appear to be a very important subject to every reflecting

person. In our own happy country, where the legislators depend immediately on the people, the prevailing sentiment will almost invariably be visible in the laws. The people therefore are the lawgivers, and consequently it is of great moment that correct views should govern them; since then only will they promote their own interests by their enactments. It is very possible for societies as well as individuals to produce the most hurtful effects, where they designed the most beneficial. Now we ask our readers candidly to look back, and recall the source of their opinions on the Tariff question. The attainment of truth is our only object, and we trust the only object of all parties with the exception of a few individuals, on this question of national interest. Can many of our readers refer to a higher authority for the opinions which they now hold, than a paragraph in a newspaper, or one of those Tariff pamphlets which are so industriously circulated, or it may be, the Report of Mr. Secretary Rush? How many of them can say that they have carefully examined both sides? There are thousands who will read a short article in a newspaper, or a pamphlet, that would be frightened at the sight of a work of the size of Smith's or Say's. We have before us the Letters of Prof. List, which were first published in the Nat. Gazette, but have been since republished in a pamphlet; and this pamphlet will be perused by many who had never before seen any thing on the science as well as by those who had, and will be esteemed perfectly conclusive by great numbers because it agrees with their previous impressions. If the Prof. be in error, it is of moment that it should be known; and we therefore propose to try the accuracy of some of his propositions.

An apology may perhaps be expected from us for our audacity in even indulging the thought that possibly the errors of Prof. List may be detected by us. We grant that there is a very formidable degree of self-complacency in the Professor; and he is so kind as to assure us that he is perfectly skilled in the works of Smith and Say, and in what is called the liberal system;* and to prevent, we suppose, suspicion of any undue bias, he further informs us that he is a man of perfect independence of mind;† and to crown all, lays it down as an axiom, that those who do not see things in the same light with himself, "prove only that they do not understand the true nature of Political Economy."‡ Havin this manner established his reputation with the American public, Prof. List, we presume, deems himself free from those rules of courtesy and decorum which should govern common minds. We were somewhat surprised, after the German's complaints that the liberals proscribed their opponents as idiots, and used other discourteous names, to hear himself, among other polite language of the same kind, denominate those whose opinions differ from his own, "fools who see no deeper than the surface."‖ But after all these terrifying particulars had their full operation upon our minds, we were inclined to question the Professor's claim to the dictatorship in Political Economy; and these doubts were strengthened in no small degree by what the Prof. designed for a very different purpose:—even by his extraordinary sagacity and profound science displayed in the discovery that Dr. Cooper's book is a "mere compilation"§ We have not seen the Dr's publication, but believe it to be extremely improbable that, in the present state of the Science, it should make any pretensions to originality; and consequently the very learned German might, without any great loss to the public, have avoided bur-

*p. 13. †Conf. p. 6 and 14. ‡p. 31.
‖p. 22. §p. 6.

dening himself with the work of supererogation of announcing to the the schoolboys of our land, for no others need the information, that Dr. Cooper was not the founder of the science of Political Economy.

But we must leave the learned Professor however delectable the subject, and turn our attention to his letters. The author informs us that he leaves minor points to less transcendant geniuses, and designs for himself the demolition of the system of Adam Smith, and Co.;*—including Ricardo, McCulloch, Malthus, Mills, Say, Garnier, and Storch. All these men of distinguished talents, who spent the best energies of their minds in discovering and enforcing the truths of Political economy, have been bewildered by the grossest errors, if we are to believe Prof. List; and the redoubtable German marches among them, and lays about him in their overthrow in a manner much resembling that of the valorous knight, Don Quixotte, when he made a dash amongst the pursuers of the distressed damsel, whose name we have forgotten. In truth there is a very striking agreement discernible in the conduct of the heroes; and Prof. List seems not to think it a harder matter to demolish the work of A. Smith, or scatter that of Ricardo to the winds, than the valorous knight of yore did to transfix a windmill, or dissever the carcase of a giant.

We may remark in passing that as Prof. L. claims indulgence for the imperfections and inelegancies of his expression in English,† it would have been becoming for him to have remembered that his acquaintance with the language was slight, when attempting to criticise the use of terms by native writers. We speak of *Political* Economy as distinguished from *Domestic* Economy;—the former bearing the same relation to nations which the latter does to families. In the phrase *domestic economy*, according to Prof. L's mode of reasoning,‡ "there must be just as much of domestics as economy." We can assure the learned Professor that however it may be in Germany, with us, the domestics are generally the least economical part of the household; and economy and domestics usually vary in the inverse ratio;—the former diminishing as the latter increase. Prof. L's criticisms and witticisms therefore are equally misplaced. This is not the first instance in which the learner of a language has been deceived in taking the use of one term from that of another, which claims the same original. Politics is the science of government; and hence has only an indirect bearing on the reasonings of the political economist.

Another morsel of criticism with which the Prof. has favored us, respecting the use of terms, relates to the word "grammatical."‖ Dr. Cooper had called a nation a 'grammatical being'; and at this Prof. L. expresses his astonishment, asserting that a nation is a 'moral being.' Non nobis tantas componere lites; but we were not a little amused by the Professor's illustrations of his position. "The names, bar, yeomanry, mob," says Prof. L. "are such grammatical beings." It was with no surprise that we saw the bar, and the mob excluded from the rank of *moral* beings; but we were not prepared to see this exclusion extended to the yeomanry of our land. We verily believe that they deserve the appellation of which they have been so unceremoncously deprived. If we might venture to give our opinion, we would say that a nation is a legal entity, and possesses a unity in the eye of the law. A nation however in its corporate capacity is generally a large consumer of wealth; but seldom, if ever, a producer. We do not deny that the legal being

*p. 18, 5. †p 8.
‡p. 9. ‖p. 29

may influence indirectly the production of the individuals who compose the nation; but this is not direct production.

(*To be continued.*)

THE LAST WINTER.

The last winter was remarkable for its mildness, and for the quantity of rain which fell during its continuance. We kept no register of the weather; but we cannot certainly be far wrong in saying, that more than one half, and probably about two-thirds of the days during the winter months, were showery; and occasionally the rain came down in torrents. During the whole season, there was not sufficient frost to harden the roads, so that they might be passed easily by travellers; and we are informed that the city of Cincinnati would have suffered real difficulty from the want of provisions, if the same warm weather, which rendered the intercourse with the adjacent country impossible in consequence of the badness of the roads, had not preserved the communication by water open. The Ohio river was in excellent condition for navigation, the whole winter.

As it has been proved that there is no accession, nor diminution of temperature in the Earth from its interior, we may be assured that the quantity of heat received by our planet during different years is the same; since so far as we know, the external sources are constant, or very nearly so. It is obvious therefore that the quantities of evaporation are equal in different years, and consequently that the rain, which falls in different years, is equal. The same quantity of water then rises from the Earth; and falls back again, in every year. If this be so, it must necessarily follow that, when there has been an excess of rain in any one part of the world, there must have been a corresponding deficiency in some other region. These are the conclusions of Theory: They were beautifully exemplified last winter in the Mississippi valley.

While in this part of Ohio we were deluged with rain, and we are informed that this was the case as far south as Natchez, (how much farther we cannot say,) at New-Orleans they were suffering from drought; and had an unusually dry winter. The vapour, which in ordinary seasons, watered the whole region, was condensed upon the upper part alone; and the inhabitants of the South might see in the rivers, swelling and overcoming their banks, the water which they had expected to fall in pleasant showers. Evaporation must have been inconceivably rapid in that region, while condensation was so continuous and copious with us. It would appear that there must have been a continued current of vapour from the south to the north, while the overflowing streams carried the waters back again as rapidly to their original place.

The valley of the Mississippi is protected both on the East and West by ranges of mountains; but on the North and South it is exposed. Hence the climate seems to be more variable than that of the Eastern States, which experience the regulating influence of the sea breezes, and which are better sheltered to the Northward. When the wind changes its direction, we frequently have variations of temperature from cold to heat, and from heat to cold, with very short intervals between what, to our feelings, seem to be extremes of both. A south wind brings the temperature of a warmer climate upon us almost at once; and the reverse is true when the ærial currents are from the Arctic regions. The exclusion then from the action of the sea breezes, and the exposure to the Northern and Southern currents, would seem almost necessarily to render the climate of the Mississipi valley subject to great and sud-

den variations of temperature.

The peculiar features of the last winter are somewhat difficult of explanation. We readily perceive that the Northern and cold currents were less frequent than usual; and in consequence the weather was warmer in our region; and the vapour was not condensed in the Southern parts of the country. The evaporation of the water at the South, and its condensation here, appear to have taken place, in a manner somewhat similar, to what would have happened, had the atmosphere remained entirely at rest. There can be no doubt but that the liberation of vast quantities of heat, from the condensation of the vapour, exerted much influence in diminishing the cold in our region.

We are at a loss to account for the singular fact, that the cold air from the North should have caused but slight and partial currents to the Southward for some months in succession. It is true that the smallness of the portion of the continent exposed to a tropical climate, and this too lying at a very considerable elevation, besides our having the Gulf of Mexico at the South, should prevent our anticipating violent currents from the North during the winter season; but these causes are always operative, and do not explain why the last winter should have been so different from those which preceded it, though sufficient to account for the general mildness of our winter season.

PHILOSOPHICAL PUZZLE.

An ingenious philosophical puzzle has attracted the wondering gaze of a few of our citizens for some days past; and to prevent cases of mental alienation, which might arise from the fixedness of mind, that so abstruse a subject must require, we will suggest an explanation of the difficulty. The experiment is this: Take a piece of card or pasteboard, and cut it circularly to about the size of a dollar; perforate it in the centre, and insert a small tube (a piece of a quill will answer) through the hole, so that the end of the tube may project beyond the surface of the card one eighth or one tenth of an inch. The distance of the extremity of the tube from the surface of the card may be somewhat greater than that given; but if increased to any great extent, the experiment will not succeed. The tube must fit closely the hole in the card. Now cut another circular piece of card, but not quite so large as the first piece; and place it centrally, or nearly so, over the projecting end of the tube. When the apparatus is thus arranged, and the tube held perpendicular to the horizon, if you blow into the lower end of the tube with your mouth, or a pair of bellows, the small piece of card that was laid upon the extremity of the tube which projected but a short distance from the surface of the card, into which the tube had been inserted, will not be moved from its place. This is the difficulty to be explained: Why cannot we blow off the small piece of card by blowing through the tube?

The reason appears to be this: When we blow against the surface of the card which rests upon the tube, the current of air immediately raises the card from the end of the tube; but so soon as this is done in the slightest degree, the air will escape around the edges of the tube, separating from the middle of the current in every direction: consequently under that part of the card which is over the centre of the tube, or of the current of air, there will be a great rarefaction, or a partial vacuum produced. Thus the atmospheric pressure on the upper surface of the card will prevent its being blown off.

The useful effect in the experiment, of the first piece of card into which the tube was inserted, is evi-

dent. If it were not in its place, when the air commenced rushing from the tube, the current would go on in a direct course; and the adjacent air around the sides of the tube, come in to supply the place of what was carried off by the lateral communication of motion in fluids. When however, the piece of card is some distance below the end of the tube, this supply of air is prevented; and thus the rarefaction of the air between the surfaces of the two pieces of card, will make to be sensible the pressure of the atmosphere on the upper surface of the smaller piece; and thus in the first instant prevent, and afterwards aid in preventing, the latter from flying off; and by this means give a lateral direction to the current of air which passes through the tube. The lateral direction however, is primarily owing to the resistance of the small piece of card;* but would be only momentary, if it were not for the causes described above. This lateral motion must take place before the vacuum can be formed over the centre of the tube, in the axis of the current of air. It is obvious, if our explanation of the phenomenon be correct, that it is not necessary to keep the tube in a perpendicular position; and any one may ascertain that this is the case by inverting the tube after he has commenced blowing; continuing this operation however while he is bringing the upper end of the tube towards the ground.† It is also very plain, now why the tube must fit the aperture in the card closely so as to prevent the access of air between the edges of the card and the sides of the tube; and why the distance between the pieces of card cannot be made great. This distance however may be increased, if the current of air be increased gradually at the same time.

It may amuse some of our eastern friends to know how much a little thing grows by travelling five hundred miles over various mountains, and rivers, and through woods. It is rumored here that a Society in London has actually offered *three hundred guineas* for the solution of this small matter of which we have been taking notice!!!! Our people must believe the adage that "the fool and his money are soon parted;" and that they are all fools in London.

*The resistance caused by the weight of the card, though not great, would be sufficient to commence the lateral motion. Try the experiment with a light piece of thin paper, when it will hardly succeed.

†The weight of the card however may be too great for this to succeed.

THE PHILOSOPHY OF COMMON LIFE.

Philosophy is the knowledge of the connection which exists betwixt cause and effect. Hence the man who understands the mode of conducting the particular business in which he is engaged is a Philosopher though he may be ignorant of books and terms.

Every man sees and feels that there are particular individuals in all departments of life who excel their fellows. These are the philosophers in their respective departments.

In every settlement there are farmers who raise better crops and have a better kind of stock; and who, generally speaking, dispose of the products of their farms, to better advantage than the most of their neighbours do. These are the philosophers of the neighbourhood though some of them may not be able even to read.

In visiting our friends and neighbours we observe vast differences with respect to domestic arrangements, and the modes of doing the ordinary business of the day. There are in some houses an order in the general arrangements and a facility in governing the children and servants and in conducting the labour of the kitchen and parlour, which at the very first glance are acknowledg-

ed to be far superior to the arrangements and modes of doing business in other families. The wives and mothers who are at the head of these arrangements are Philosophers. They understand the science of human nature though they may have never studied either Lock or Reid or Stewart.

We mistake much, however, when we suppose that a knowledge of books and of science would be of no use to these superior minds. Such individuals are in Agriculture and domestic life, what Homer and Ossian are in poetry. They are originals. And if they have made such attainments under the very limited means which they have enjoyed, no adequate conception can be formed of what they would have been, had their knowledge of facts—of men and things—been enlarged by a course of general reading.

Book Philosophy is nothing but a collection and an arrangement of important facts in the various departments of nature and of active life. And all other things being equal that man is the best Philosopher who has at his command the most extensive collection of facts. The Philosopher of common life owes, in like manner, all his superiority over his fellows to the nature and number of the facts which he has at command; and to the happy arrangement or classification which he has made of these. And he has acquired his superiority, by attending more minutely to the various objects of daily occurrence than his neighbours generally have done. Give then to this Philosopher in common life the means of information which the book Philosopher has enjoyed; or in other words, extend the range of his observation, and give him the power of recording and communicating his observations and experience, and he will excel the most of mere book Philosophers as far as the civilized man excels the savage.

The same general principles and arrangements which will improve one farm, and enrich the owner and cultivator, would improve all the farms in the state, and enrich all the owners and cultivators of land. And this is what book Philosophers call Political Economy. Hence give to a good practical farmer the same influence over the State which he has over his own farm, and all the farms in the State would soon be in a high state of cultivation. Let the practical farmer then become a man of general reading and general intercourse; or in other words, let him acquire the power of recording and communicating the facts which he is year after year collecting, and he will soon possess this general influence. In fine: the same general principles and mode of government which are successful in the management of one family would be successful in giving character to all the families in the state or nation. Let the mothers then and the daughters in well organized families acquire the power of recording and communicating the results of their daily and weekly experience and superior domestic arrangement will soon be widely, if not generally, enjoyed.

Oxford, June 2d.

THE BALLOON.

On the evening of Thursday, the 29th. May, the Students and citizens of this village were gratified with witnessing the ascent of a small paper balloon. The size of this balloon, was twenty feet in height with thirty-six of circumference; and it was inflated simply with heated air. The air was kept in a state of rarefaction, by the combustion of spirits of turpentine and tow, in a little wire basket, attached to the bottom of the balloon.

It was sometime after the assemblage of the crowd, before the gentlemen who had undertaken the experiment, were prepared to start this object of curiosity. The degree of knowledge in the science of æronautics, possessed by the majority of the in-

habitants of a retired country town like this, may be readily conceived; and it afforded some amusement to one, to whom the spectacle was no novelty, to observe the motions of the wondering multitude. The close and scrutinizing attention directed to even the most inconsiderable act of preparation; the half uttered exclamations of surprise; the curious interrogatories addressed to the more knowing ones of the spectators; the suppressed laugh, when rustic pleasantry assayed something like a witticism on the experimenters or their actions; and the simultaneous burst of acclamation, when the subject of their wonder rose slowly above the heads of the admiring people, all betrayed an absorbing interest in the scene, which is easier imagined than described.

"Where's its wings?" cried a little boy, who could not abstract the thought that the balloon was to fly in the air from his preconceived idea of the means by which his father's pigeons effected the same end.

"Ant they goen to have a steerin oar?" inquired a learned traveller, who had once been as far as the Miami, and had learned the method in which boats are usually directed,—"Why the wind 'll blow it about every which way."

"Law! you dont suppose they're goen to ride in it?" replied one who had just been undeceived in that respect himself.

"What's to heender?" rejoined the first, "I reckon it 'ud hold two or three."

"Why, no! that big ball's only made of paper, and they'll fill it chuck-full of smoke:" interrupted a third person, from the interior of the circle, who had been watching the process by which the inflation was effected.

"Of smoke!! and what the tarnation's that for?"—The gaping mouth of the interrogator was three inches more in circumference than it had ever stretched before.

"Why smoke's thicker stuff than air, and heavier too I spose; but then—but then—you know it always goes *up* out of the *chimbly*, till—till it turns into—clouds—and then——"

Here the sage lecturer was interrupted in his edifying explanation, by the shout which told that "the big ball" was starting. Then the scampering and tumbling of those who were immediately under its passage, to avoid the dreaded fall of the burning turpentine upon their pates, was sport to the more fortunately positioned wights, who were out of reach of the danger.

"Hush!" said a surly clown to his vociferous companion, "it will fly ten times better if you dont make sich a noise." The man, I suspect, really believed that it was "a thing of life."

Rising majestically and slowly for a few moments, its velocity gradually increased as it attained a greater altitude; and, a brisk breeze prevailing, it was carried with great rapidity in a N. E. direction, with an oblique ascent, until, growing less and less distinct to the vision, it exhibited the appearance of a twinkling star, and was finally lost in the distance. It sailed along with an oscillatory and slightly rotary motion; and would probably have remained visible for a much longer time, had it not been for some intervening clouds, that appeared to envy the pleasure which the sight afforded to the spectators.

We have since heard that the balloon has been found, some seven or eight miles distant from this place, safely lodged upon a tree-top. It passed a number of farms in its way over the country, to the great terror of sundry old women and bumpkins—its approach being always announced by the barking of the dogs and the cackling of the hens upon the roost. Various were the opinions with regard to this aerial phenomenon and the supposed influence which it was to have upon sublunary affairs; but all were agreed in this—that it boded no good to the country. A Dutchman thought that he could now account for "de misheraple vet vedher," which has troubled us all the past season. One old lady recollected to have seen something just like this upon the eve of the last war, and was convinced that she heard a sound resembling the clash of arms in the air above; and another was equally certain that General Jackson was now secure of his election. A. J.

"The Alps are a noble boundary in imagination, but geographers, that unromantic sect, destroy it:—there is a line of demarcation on Mount St. Bernard, astride of which one may have his right foot in Italy and his left in France—a feat of no small sublimity to modern tourists."

SELECTED.

Rise and Progress of Horticulture.

CONTINUED FROM PAGE 13.

The only native fruits of Britain are the wild plum or sloe, currant, bramble, raspberry, strawberry, black, red, and white heather berries, elder berries, roans, haws, hips, hazel nuts, acorns, and beech-mast. All the others have been introduced by the Romans, (whose gardening would, no doubt, spread with their conquests,) or by the monks and religious houses during the dark ages from the tenth to the fifteenth century. The same thing may be affirmed as to most of our culinary vegetables, of which only the carrot, celery, beet, asparagus, sea kale, and mushroom are natives.

Gardens and orchards are frequently mentioned in the earliest chartularies; of the latter, many traces still remain in different parts of the island; one, in Icolmnkiln, is described by Dr. Walker (*Essays*, vol. ii. p. 5.) as having existed in all probability from the sixth century, and Leland and Camden cite various instances in England. Priests have at all times been attached to gardening, both as a recreation and on account of the useful and agreeable products it affords. Very little, however, is known of the state of horticulture in Britain previously to the time of Henry VIII. when the London market was supplied with culinary vegetables from Holland. This monarch's gardener introduced various fruits, salads, and potherbs, and cultivated them in the garden of the palace of Nonsuch, in Surry, together, as it is commonly supposed, with the apricot and Kentish cherry. According to an account of this garden, taken under the Usurpation, it was surrounded by a wall fourteen feet high, and contained 212 fruit trees.

Books on husbandry began to appear in England about the beginning of the sixteenth century. The first was a translation by Bishop Grosthead, in 1500; this was followed, in 1521, by *Arnold's Chronicles*, in which there is a chapter on 'the crafte of graftynge, and plantynge, and alterynge of Fruits, as well in colours as in taste.' 'Tusser's One Hundred Points of Good Husbandry' appeared in 1557. In this he gives a list of the fruits and culinary vegetables then known, under the following heads: 'Seedes and herbes for the kychen, herbes and rootes for salets and sawce, herbes and rootes to boyle or to butter, strewing herbes of all sortes, to still in summer, necessarie herbes to grow in the gardens for physick, not reherst before.' In the whole, he enumerates more than 150 species, besides a copious catalogue of fruits; which, with the exception of the fig, orange, and pomegranate, introduced a few years afterwards, the musk-melon about the end of the sixteenth century, and the pine-apple in the last century, include all the species cultivated at present in British gardens.

The fertility of the soil of England was depreciated by some in Tusser's time, probably, as Dr. Pulteney conjectures, from seeing the superior productions brought from Holland and France. Dr. Boleyn, a contemporary of Tusser, defends it, saying, 'we had apples, pears, cherries, plums, and hops of our own growth, before the importation of these articles into England by the London and Kentish gardeners, but that the cultivation of them had been much neglected. He refers, as a proof of the natural fertility of the land, to the crop of sea-pease (*Pisum maritimum*) which grew on the beach between Oxford and Aldborough, and saved the poor from famine in the dearth of 1555. Oldys, speaking of Gerrarde's garden, and alluding to the same subject, considers it as a proof 'that our ground could pro-

duce other fruits besides hips and haws, acorns and pignuts.' Gerrarde was an apothecary; his garden was in Holborn, and was rich in every useful and ornamental plant.

James I. patronized gardening, and formed or improved one at the palace of Theobalds, and another at Greenwich. The former is said by Mandelso,who visited it in 1650,to be surrounded by a high wall, and very rich in fruit trees. Charles I. brought over Tradescant, a Dutchman, as kitchen gardener, and appointed, for the first time in England, a royal botanist, Parkinson, whose *Paradisus Terrestris* is one of the most original of our early works on Horticulture and Flower Gardening. Muskmelons were then cultivated in an open hot-bed, placed on a sloping bank, and covered with straw instead of glass; as in France and Italy. Cauliflower and celery were rare at this time, and broccoli was not yet introduced. Virginia potatoes (our common sort) were little known, but Canada potatoes (our Jerusalem artichoke) were in common use. The varieties of fruits were very considerable. Of apples 58 sorts are mentioned, of pears 64, plums 61, peaches 21, nectarines 5, apricots 6, cherries 36, grape-vines 23, figs 3, with quinces, medlars, almonds, walnuts, filberts, gooseberries, currants, raspberries, and strawberries.

Cromwell promoted agriculture rather than gardening, and pensioned Hartlib a Lithuanian, who, as Harte informs us, had studied in Flanders, and first communicated and recommended to notice 'the two grand secrets of Flemish husbandry,' that of letting farms on improving leases, and cultivating green crops.

Charles II. introduced French gardening, and his gardener Rose, who had spent some time in Holland, then the best school of horticulture, and had also studied under Quintiney at Paris, introduced 'such famous dwarf fruit trees' at Hampton court and Marlborough gardens, that London, his apprentice, in the translation of the 'Retired Gardener,' published in 1667, challenges all Europe to exhibit the like. In allusion to the last two gardens, Waller describes the mall of St. James's Park as,

> 'All with a border of rich fruit trees crowned.'

When Quintiney came to England to visit Evelyn, Charles II. offered him a pension to reside here and superintend the royal gardens; but this, Weston informs us, he declined, and returned to serve his own master. Quintiney was the first horticulturist of modern times who united learning and practical knowledge. He was educated for the church, but having a decided preference for gardening, turned his whole attention that way. M. Tambonneau, his patron,first committed his gardens to his care; and soon after he was intrusted with the entire direction of those of the court. He died at Paris, in 1701. Louis XIV. always spoke of him with regret, and assured his widow that 'he was an equal sufferer with herself.'

Evelyn translated Quintiney's work on 'Orange trees' and his 'Complete Gardener,' and wrote the 'Kalendarium Hortense,' (the fruitful parent of a useful class of books,) in 1664. His last work on gardening (the *Acetaria*) was published in 1699. This excellent man was one of the founders of the Royal Society, and was consulted by the Government on all questions relating to planting and agriculture. In 1662, it was proposed to the society to recommend the culture of potatoes to prevent the recurrence of famine; but Evelyn, who does not seem, at that time, to have been aware of the value of the root, or the nature of its culture, gave them no encouragement, and the plan was laid aside. He patronised, however, a great many useful publications on rural subjects, and especially on horticul-

ture; among others, the translation of Arnaud d' Andilly's 'Essay on fruit trees,' one of the best practical works of that day, and remarkable as being the first to censure the fashionable absurdity of clipping them into the form of animals, &c. Sherrock, Rea, Worlidge, Meager, and Langford, were also encouraged by Evelyn, who is said, by Sir Henry Wooton, to have done more for rural œconomics than all former ages; and by Switzer (in his *Ichnographia Rustica*) to be the first who taught Gardening to speak proper English.

Daines Barrington conjectures that hot-houses and ice-houses were first introduced during Charles the Second's reign, as at the installation dinner at Windsor, (23d April, 1667) there were cherries, strawberries, and ice-creams. Strawberries and cherries, however, Switzer informs us, had been forced by dung-heat from time immemorial by the London market-gardeners. Lord Bacon suggests, that 'as we have housed the exotics of hot countries, lemons, oranges, and myrtles to preserve them, so we may house our natives to forward them; and thus have violets, strawberries, and pease, all winter, provided they be sown and removed at proper times.'

Cooke, Lucre, Field, London, and Wise, were celebrated practical gardeners at this time; the two latter had the first considerable nursery garden at Brompton, and laid out the greater number of seats, which still exist in the ancient style. Among these may be mentioned Blenheim, Cannons, Exton Park, and Bramley in England, and Hatton-house, near Edinburgh.

As the 18th century advanced, the botanic garden at Chelsea and its curator, Philip Miller, came into notice. A new æra of gardening may be dated from the publication of his Dictionary, and especially from the edition in which the Linnæan system was adopted. Miller improved the culture of the vine, and the fig; and the Italian broccoli, and the pine-apple, were first made known through his work. The pine-apple was first grown by Sir Matthew Decker, at Richmond, in pots placed on shelves like greenhouse plants; but was subsequently found to succeed better in bottom heat and in pits, as it is still grown in Holland.

Horticulture made astonishing progress from the time of Miller. The general introduction of forcing-houses gave it a new feature. There were green-houses in England in the beginning of the 17th century: but no structures *roofed* with glass and heated by fire till the commencement of the 18th. The skill and attention requisite to bring forward the fruits, &c. grown in these buildings became a powerful stimulus to practical gardeners, who vied with one another in the earliness and excellence of their productions. This circumstance, together with the general diffusion of botanical knowledge, and the great number of foreign plants annually introduced, and which gradually found their way from the metropolis to the remotest provinces, rendered it necessary for gardeners to scrutinize into the native habits of plants, in order to determine their mode of culture, and thus a spirit of improvement on scientific principles was raised up, and matured. The culture of the pine-apple and the grape was carried to great perfection between the years 1760 and 1790 at Welbeck, in Nottinghamshire, by Speechley, who introduced several new sorts of both fruits, and contributed by his writings to spread a knowledge of their culture. Every walled garden had now its vinery and peach-house, and many had stoves for pines. New varieties of the hardy fruits, as the apple, pear, cherry, &c. were raised from seed; and almost all the culinary vegetables were improved, either by British gardeners, or by importing the best

sorts from Flanders and Holland, countries still pre-eminent in horticulture.

No branch of gardening made much progress in Scotland till within the last fifty years; for the progress of every art is relative to the influx of wealth, and Scotland, till lately, has been more remarkable for producing excellent operative gardeners for other countries, than for employing them in her own. The first Scottish work on gardening was published in the early part of last century by J. Reid. Subsequently appeared the 'Scots Gardener's Director,' an original work, by a great enthusiast in gardening, James Justice, of Crichton, near Edinburgh. Dr. Gibson published a valuable tract on fruit trees; and in 1774, Keil produced a treatise on peach-trees; the practical works of the late Walter Nicol are so recent as to be sufficiently well known.

Crichton garden was accounted the richest in Scotland, during the life of the proprietor, who laid out great sums on it; subsequently, (i. e. from 1760 to 1785) that of Mordun, near Edinburgh, claimed the priority, and may be considered as the first in that country in which forcing was carried to any degree of perfection. The late Baron Moncrief, its proprietor, used to boast that 'from his own ground, within a few miles of Edinburgh, he could, by the aid of glass, coals, and a good gardener, match any country in Europe, in peaches, grapes, pines, and every other vine fruit, excepting apples and pears; these he acknowledged were grown better in the open air in England and the north of France. Dr. Duncan informs us that on the 10th of June, (1817) a bunch of Hamburgh grapes was presented to the Calidonian Horticultural Society, 'weighing four pounds, the berries beautiful and large.' At this early season, it is added, such grapes could not be obtained at any price, either in France, Spain, or Italy. This and many other circumstances might be adduced to prove the rapid progress which this science has made in Scotland within a very short period.

In Horticulture, Ireland is left at an immense distance. The first stimulus given to the territorial improvement there, was by Cromwell's soldiers, and chiefly by Walter Blythe, the author of a well-known and very ingenious work, '*The Improver Improved.*' From Cromwell's time things remained nearly stationary till the establishment of the Dublin Society in 1749, when planting began to be attended to; previously to the Union, however, little was done. No original work on horticulture has yet appeared; and, till within the last ten years, there were not, as we are well assured, above ten gardens in that kingdom which had forcing-houses. Now, however, improvement of every kind is rapidly taking place.

Having brought down this slight sketch of the history of horticulture in Britain, to the period when the two Horticultural Societies took their rise, we shall pause for a moment to compare it with that of other countries.

Gardening is, perhaps, more than any other art, under the influence of geographical circumstances. It is true, nature has adapted a variety of vegetables to every climate; and those which are the most useful to man, as the farinaceous grains, will be found attending him almost in every country where he has fixed his habitation. Still there are some climates eminently fitted for culinary vegetables, and others for fruits, and none in which the best sorts of both can at once be brought to a high degree of perfection in the open air. The finest fruits are natives of Syria, Persia, and the Indies; but the most succulent and best-flavoured legumes are produced in the low moist climates of Holland and Britain. Excepting in Lombardy, no potherbs of tolerable

quality are raised in Italy. The broccoli alone of Rome is fit to compare with that of England; their turnips, carrots, parsnips, radishes, are small, bitter, and hard; their celery stringy, and even their kidney beans dry and tough, as they are also in their native climate, India. Gourds, melons, and tomatos, are almost the only culinary productions in which they excel in the south of Italy; their cucumbers are far superior to those of our close hot-beds.

In Lombardy, the climate is more temperate, the great tract of country low, very generally irrigated, and the air, in consequence, moist. Herbaceous vegetables are there grown to much greater perfection; and on the rising grounds the peach, apple, pear, cherry, plum, vine, fig, olive, &c. are excellent. In most places the lemon and orange require shelter during winter; but in some spots they grow in the open air, as at Genoa, and bring their fruit to a considerable degree of perfection. Lombardy, therefore, enjoys a climate which, though less favourable for fruits than that of Rome and Naples, and for leaves and roots than that of Holland, we consider, upon the whole, the best adapted, on the continent, for both branches of horticulture.

Drs. Pouqueville and Holland bear testimony to the striking inferiority of culinary vegetables in European Turkey, and to the great excellence of the fruits. Every one who has crossed a mile in Spain, knows that, excepting among foreign merchants at the sea-ports, there are few other vegetables to be obtained than garlic, onions and gourds; the fruits, however, especially the grape, the fig and the orange, are delicious.

In the south of France there are few culinary roots or leaves cultivated. The gourd and the Indian wheat are almost the only vegetables of the cottager, who is but in few instances acquainted with, or reconciled to, the potatoe. In the middle districts, the kidney-bean is the chief plant; but the market of Paris is tolerably supplied, especially with salading, spinach, sorrel and pease. Asparagus and artichokes, however, are brought to a higher degree of perfection there than in Italy. The north of France excels in the apple and pear, the south in the grape and fig, which, with the pomegranate, are neutralized in Languedoc. The olive prospers between Marseilles and Nice. The orange bears abundantly in the open air at Toulon and Hieres. The almond is much grown about Lyons. Montreuil, near Paris, is noted for the peach, Argenteuil for the fig, Fontainbleau for the culture of table grapes, and Tours for the cherry and plum. The fruit shops of Paris are abundantly supplied with these in their respective seasons; but none of them are forced, (with some imperfect exceptions for the royal family,) and the pine-apple is cultivated by only three or four individuals in France. It is generally believed that the air or climate of the country is unfavourable to this fruit. The late Duke of Orleans (Egalite), to give a fair trial, procured from his friend, the Earl of Egremont, a pine stove furnished with plants, together with frames, bricks, flues, bark-pots, plants, and even the gardener, Blaikey. After repeated trials on different estates of the Duke, near Paris, and of a marine situation near Montpelier, which all ended in disappointment, the attempt was finally given up.

[*To be continued.*]

'"God Almighty," says Lord Bacon, "first planted a garden; and, indeed, it is the purest of human pleasures. It is the greatest refreshment to the spirits of man, without which buildings and palaces are but gross handy-works." Perhaps in the shady walks of his garden, Bacon felt his mind purified from its grosser and more worldly affections.'

THE LITERARY REGISTER.

SATURDAY JUNE 7. 1828.

It will be seen from the conditions of our paper, that we accept of a very reduced sum, if payment be made in advance. Our terms are so low, that we cannot afford permission to our Subscribers of paying for a month or two at the advance price. We request therefore those who wish to avail themselves of the opportunity of receiving our paper for the smallest sum, to transmit the amount immediately on the receipt of this notice. Those who have lists of subscribers, which have not yet been handed in, will please to have them sent on at the earliest date possible.

We published in the Register for last week a solution of one, and now give that of the other of the two questions which appeared in the later numbers of "The Focus." These solutions were handed in by one of the students of the University. We do not know that mathematics will be generally interesting; but we are not unwilling to devote a page to questions which may be sent us. Questions sent for insertion, must be accompanied by their solutions.

The inhabitants of the village and neighbourhood will receive their papers from the Post office, at which place they will be deposited. As nearly all our villagers visit the Post Office once a week, it is presumed that this method of distribution will be found generally convenient. Communications for us may be left at the same place.

We request Postmasters to inform us, in compliance with the regulation of the Postmaster General, of all cases in which our papers are not taken from their offices

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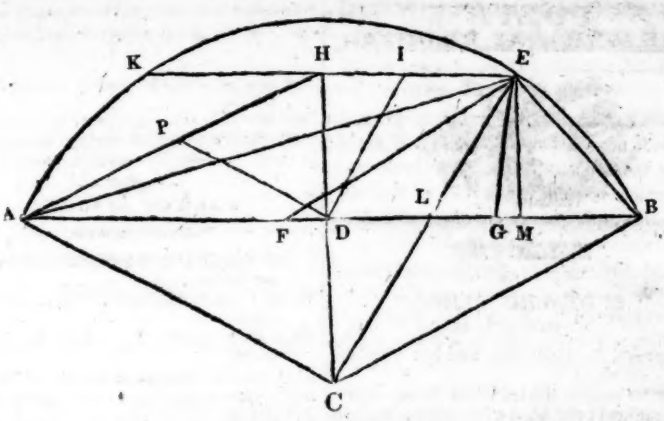
Editors who may be unwilling to exchange papers with us, will please to return the numbers which we sent them.

We have received no news from Europe, that is much more decisive than what we gave in our last. It appears that the Russian army has crossed the Pruth; but this is not viewed as likely to lead to important consequences. The decisive step will be the crossing of the Danube. It is reported that the Emperor Nicholas has declared war against Turkey; and that Austria and Prussia, fearing lest they should have no share in the prey which looks so inviting, had acceded to the treaty of the 6th of July, by which Britain, France and Russia entered into an agreement to compel the Ottoman to give peace to Greece. This land, the scene of our most pleasing classical recollections, seems to be rising from its miserable condition. The country is now free from foreign aggression, except the district occupied by the Pacha of Egypt; and he is purposing to return to his own land. We may hope that Greece, under the protection of the great powers of Europe, will gradually assume a more respectable rank in the scale of nations; and after some time be fit for self government. At present we fear that this is not the case; and we are suspicious at the same time of the interference of despots in her concerns; and would almost as willingly see the anarchy of half civilized men in the country which our feelings decide should particularly belong to Liberty, as the tranquility that proceeds from the paralyzing arm of absolute monarchs. The participation of Britain however in this business, has a tendency to reassure us.

As to our domestic affairs, by which of course is meant the presidential election, we are not able to speak decidedly on the subject This however is evident that both parties make too many noisy and positive assertions, to believe themselves that their cause is secure. Certainty of success would produce a calm and sober confidence, which is wanting in all the *demonstrations* of the partisans of both candidates. We will rejoice, when this business is over, which makes fools of men, who had a tolerable reputation for sense; and converts those who previously were known as rather weak into the merest maniacs.

We have thought it a great evil that county newspapers should give more information respecting almost every part of the state, than that in which they are printed. We would ask those who have it in their power, to assist us in remedying this matter.



Given the sum of the sides, the difference of the angles at the base, and the length of the line which bisects the vertical angle to construct the triangle.

CONSTRUCTION.

Lay off AB equal to the perimeter of the triangle to be constructed; bisect AB in D; at the point D raise a perpendicular of an indeterminate length; also from the point D lay off an angle HDI equal to half the difference of the angles at the base; take DI equal to the line that bisects the vertical angle and through the point I, draw the line KE parallel to AB; let H be the point where this line cuts the perpendicular DH; join H and A; from the point D as a centre with a radius equal to DI describe an arc cutting the line AH; let P be the point where the arc cuts this line; join P and D; through the point A draw the line AC parallel to PD; produce HD until it meets AC, let C be the point of junction; from this point as a centre with a radius equal to AC, describe the arc AB, let E be the point where this arc cuts the line KE; join E and A, E and B; from the point E lay off the angle FEA=FAE, and GEB=GBE; join E and C, then will FEG be the triangle required; and EL will bisect the vertical angle FEG, and it will be equal to ID.

To prove this we have only to shew 1st, that FE+EG+GF=AB; 2nd, that FEL=LEG; and 3d, that DLEI is a parallelogram.

DEMONSTRATION.

As in the demonstration given last week, we prove the perimeter=AB and the angle FEL=LEG; which were the two first things to be shown.

3d. In any triangle the line that bisects the vertical angle, makes an angle with the altitude equal to half the difference of the angles at the base. To shew this we will suppose that in the triangle FEG, the line EL bisects the angle FEG;

$$FGE+GEL+ELG=180°$$
$$GFE+FEL+ELF=180°$$

by subtracting the latter of these equations from the former, cancelling and transposing we get

$$FGE-GFE=ELF-ELG.$$

In words, the difference between the angles at the base is equal to the difference between the angles formed by the line that bisects the vertical angle with the base; in the present case EM being the altitude of the triangle FEG, LEM will evidently be half of this difference; but IDH was made equal to half of this same difference; and since HD is parallel to EM, EL must be parallel to ID; and IE was made parallel to DL, consequently DLEI is a parallelogram, and EL=ID which was made equal to the line that bisected the vertical angle of the triangle to be constructed, therefore FEG is this triangle.

POETRY.

SELECTED.

"SI DESERIS PEREO."

BY MISS ROSCOE.

He seem'd to love her, and her youthful cheek
Wore for awhile the transient bloom of joy.
And her heart throbb'd with hopes she could not speak,
New to delight and new to extacy.

He won her heart in its simplicity,
All undisguis'd in its young tendern ess;
And smiling, saw that he, and only he,
Had power at once to wound it, or to bless.

She gave to him her innocent affection,
And the warm feelings of her guileless breast,
And from the *Storms of Life* she sought protection
In his dear love, her home of early rest.

In this sweet trust her opening days were blest,
And joyously she hailed the coming years,
For well she knew that even if distrest,
There would be one kind hand to dry her tears.

He left her—and in trouble she awoke
From her young dream of bliss, but murmur'd not
Of her silent sufferings, nbr spoke
To *any* one upon her cruel lot.

You would have deem'd that he had been forgot,
Or thought her bosom callous to the stroke;
But in her cheek there was one hectic spot,
'Twas little–but it told her heart was broke.

And deeper and more deep the painful flush
Daily became, yet all distress seem'd o'er,
Save when the life blood gave a sudden rush,
Then trembled into silence as before.

At once too proud, too humble to deplore,
She bow'd her head in quietness; she knew
Her blighted prospects could revive no more;
Yet she was calm, for she had Heaven in view.

She lov'd and she forgave him—and in dying
She ask'd a blessing on his future years;
And so she went to sleep, meekly relying
Upon that power that shall efface all tears.

Her simple turf the young spring flow'ret wears,
And the pale primrose grows upon her tomb,
And when the storm its simple bosom tears,
It bows its head—an emblem of her doom.

FALL OF NIAGARA.

BY BRAINARD.

The thoughts are strange that crowd into my brain.
While I look upward to thee. It would seem
As if GOD pour'd thee from his 'hollow hand,'
And hung his bow upon thy awful front;
And spoke in that loud voice, which seem'd to him
Who dwelt in Patmos for his Saviour's sake,
'The sound of many waters;' and had bade
Thy flood to chronicle the ages back,
And notch His cent'ries in the eternal rocks.

Deep calleth unto deep. And what are we,
That hear the question of that voice sublime?
Oh! what are all the notes that ever rung
From wars vain trumpet, by thy thundering side!
Yea, what is all the riot man can make
In his short life, to thy unceasing roar!
And yet, bold babbler what art thou to HIM,
Who drowned a world, and heap'd the waters far
Above its loftiest mountains?—a light wave,
That breaks, and whispers of its Maker's might.

EPITAPHIUM MARIÆ.

Ah, Maria!
Puellarum elegantissima!
Ah flore venustatis abrepta,
VALE!
Heu quanto minus est
cum reliquis versari,
quam tui
meminisse!

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